



The Other Trees of Muir Woods

Muir Woods is an old growth redwood forest, home to some of the tallest trees in the world. As you walk through this forest you notice these coast redwood trees with every turn of your head. But, in a forest such as Muir Woods, many other trees help to support the life of the entire forest along with the coast redwood. The nuts and berries of these other trees are an important food source for the native wildlife. Even though the coast redwood dominates this forest and creates a shady, cool, and moist environment, the understory trees have adapted and continued to thrive. Often these trees go unnoticed due to the popularity of the "big trees." As you walk through this old growth forest, take a minute to notice the other trees of Muir Woods and appreciate their value to forest life.

Coast Redwood (*Sequoia sempervirens*)

- Grows naturally in coastal valleys of California
- Up to 260 ft tall in Muir Woods
- Deeply furrowed, reddish brown bark
- Two types of foliage, lower flat needles, upper is shorter needles circling branch
 - Female cones 1 inch long, male cones 1/8 inch long



Bark used as housing materials by Native Americans

- ### Douglas Fir (*Pseudotsuga menziesii*)
- Found widely throughout the west, upper ridges of Muir Woods
 - Second in height only to the Coast Redwood
 - Dark gray, deeply grooved bark



- Light green single needles
- Cones 3 to 4 inches long with forked bract

Needles used medicinally as a tea by Native Americans

California Nutmeg (*Torreya californica*)

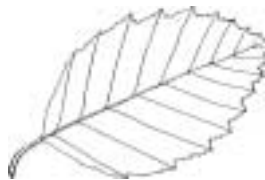
- Found in mixed evergreen forests on shady slopes
- Often shrubby, up to 40 ft in height
- Gray bark color
- Needles are glossy green with sharp pointed tips
 - 1 - 1 1/2 long, olive green to deep purple fruit



Some Native Americans used needle tips for tattooing

Red Alder (*Alnus rubra*)

- Grows along coastal streams
- Can grow to 60 ft in height
- Gray/white, patchy bark
- Alternating leaves 2 inches long, coarsely toothed and edges curled under
 - Long male catkin pollinates small, cone like female catkin



Roots used by local Native Americans for basketry

Big Leaf Maple

(*Acer macrophyllum*)

- Found along streams and moist areas
- Can grow to 100 ft in height
- Bark has large cracks and ridges and often moss covered
- 3 to 5 lobed leaves turn yellow in fall
- Yellow-green spring flowers ripen into clusters of fruit that blow easily in the autumn wind



- ✦ Not often used, but sap can be turned into maple syrup

Toyon (California Holly)

(*Heteromeles arbutifolia*)

- Found in coastal areas of California
- Height up to 35 ft
- Bark is gray in color
- Hairless leaves are 2 to 5 inches long with pointed ends and sharply toothed
- Produce white flower clusters in June and July, red fruits continue in winter



- ✦ Used today for winter holiday decorations

California Bay Laurel

(*Umbellularia californica*)

- Common understory tree in many western forests
- Average height 30 to 80 feet
- Bark gray but often covered in green moss
- Leaves have elliptical shape and strongly scented
- Small yellowish flowers cover the tree in spring



- ✦ Many Native Americans used the scented leaves as a cold remedy

Coast Live Oak

(*Quercus agrifolia*)

- Often found in California coastal grasslands
- Height can be 30 to 50 ft
- Bark is dark gray in color
- 1 to 4 inch long leaves wide, upper surface shiny, and arched upward
- Narrow conical acorns are ¾ to 1 ½ inches long, cups bowl-shaped



- ✦ Crushed acorns were used as a food source by Native Americans

Tanoak (Tanbark-oak)

(*Lithocarpus densiflorus*)

- Found in coastal forest slopes and valleys
- Height can reach 50 to 100 feet
- Bark is dark in color and thick
- Leaves hairy beneath, whitish to brownish, sharply toothed, 2 to 5 inches long
- Pointed acorns ¾ to 1 ½ inches long, hairy cups saucer-shaped



- ✦ Native Americans pounded acorns into flour for food

Madrone

(*Arbutus menziesii*)

- Found on upper edges of redwood forests
- Grow 25 to 80 ft in height, in twisted shapes
- Thin, red bark peels off exposing light green wood
- 4 to 6 inch long leaves are wide, smooth edged or finely toothed
- White bell-shaped flowers in spring, and orange berries in late summer



- ✦ Many Native Americans used the Madrone berries as a food source

California Buckeye

(*Aesculus californica*)

- Often found in wooded canyons
- Height can be up to 30 ft
- Bark is gray in color
- Palmate (fan-like) leaves have 5 to 7 leaflets
- Large, white flower clusters in spring and large, brown, chestnut-like fruits in fall



- ✦ Many Native Americans used the toxic buckeye to stun fish before catching them.